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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,126	09/21/2001	Stephen R. Schmidt	28748/37575	4200

4743 7590 05/13/2005

MARSHALL, GERSTEIN & BORUN LLP
233 S. WACKER DRIVE, SUITE 6300
SEARS TOWER
CHICAGO, IL 60606

EXAMINER

PIAZZA CORCORAN, GLADYS JOSEFINA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 05/13/2005

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/961,126
Filing Date: September 21, 2001
Appellant(s): SCHMIDT, STEPHEN R.

Thomas A. Miller
For Appellant

EXAMINER'S ANSWER

MAILED
MAY 13 2005
GROUP 1700

This is in response to the appeal brief filed April 4, 2005 appealing from the Final Office

Action mailed September 3, 2004.

HL

(1) *Real Party in Interest*

A statement identifying by name the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The Examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 10, 11, 16, 17 and 35.

Claims 1-9, 12-15, 18-34, 36-38 have been canceled.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Claimed Subject Matter*

The summary of claimed subject matter contained in the brief is correct.

(6) *Grounds of Rejection to be Reviewed on Appeal*

The appellant's statement of the grounds of rejection is correct.

(7) *Claims Appendix*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of the claims under appeal.

5,292,391	WALLICK '391	03-1994
5,332,458	WALLICK '458	06-1994
5,849,081	WESTPHAL	12-1998
5,609,711	MILLER	03-1997
1,199,508	SWIFT	09-1916

Wallick '391 and **Wallick '458** (equivalents in terms of their teachings as applied to the limitations of the claims) are directed to an apparatus for manufacturing a corrugated product with a corrugating device, a water supply device capable of applying water to only a plurality of crests on the first side of a first web, a starch supply device and a securing device.

Westphal is directed to an apparatus with a spray device capable of applying water to only a plurality of crests on the first side of a first web in an apparatus for manufacturing corrugated product.

Miller is directed to an apparatus with a spray device capable of applying water to only a plurality of crests on the first side of a first web in an apparatus for manufacturing corrugated product.

Swift is directed to an apparatus for manufacturing a corrugated product with a corrugating device, a spray water supply device, a starch supply device and a securing device.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10, 11, 16, 17 and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants amendments to independent claim 10 include "the water and starch combine to form an adhesive joining the first and second webs of medium together". There is no support in the original Specification for the water (from the water supply device that applies water to only a plurality of crests on the first side of the first web) and starch (from the starch supply device applying starch to only the plurality of crests on the first side of the first web) to combine to form an adhesive.

The Original Specification generally provides support for providing a starch slurry to form the adhesive composition applied to the crests of the web (page 8, lines 9-15) and the steps of applying a wetting agent of water to the crests and then applying the starch slurry to the crests after the wetting agent (page 10 lines 11-17). However, there

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is no support in the Original Specification that describes in such a way to reasonably convey to one of ordinary skill in the relevant art that the Inventor, at the time the application was filed, had possession of the water applied to the crests and the starch later applied to the crests combining to form an adhesive to join the first and second webs of medium together.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10, 11, 16, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallick '391 (US Patent No. 5,292,391) or Wallick '458 (US Patent No. 5,332,458).

Wallick '391 and Wallick '458 (equivalent in terms of their teachings as applied to the limitations of the claims) both disclose an apparatus capable of manufacturing a corrugated product with a corrugating device (rollers 38 and 40) capable of forming a plurality of flutes on a medium web, a water supply device capable of applying water to only the crests (spray 48 with the embodiment of the roller coater in figure 2b applying only to the crests; **'391**- column 5, lines 30-31, column 7, lines 19-20, column 9, lines 57-60; **'458**- column 4, lines 18-19, column 5, lines 7-9 and 54-55, column 7, lines 13-16), a starch supply device capable of applying starch only to the crests (glue station

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42; '391- column 5, lines 1-3, 41-45; '458- column 4, lines 2-4, 28-32) after the water supply device has applied water to only the crests (see figures 1a, 1b), and a securing device capable of securing a second web of medium to the crests (pressure roll 36).

As to the amended limitations of a "water" supply device and a "starch" supply device, the spray 48 in the Wallick references is fully capable of supplying water and the glue station 42 is also fully capable of applying starch. The material worked upon does not further limit apparatus claims (see MPEP § 2115). Additionally, it is noted that the spray device 48 (including the roller coater embodiment that applies only to the crests) in the Wallick references applies resin in an emulsion or latex therefore it is considered to be a "water" supply device as these are aqueous solutions including water ('391: column 8, lines 1-15 and column 10, lines 1-10; '458: column 5, lines 46-55 and column 7, lines 19-28). It is further noted that the Wallick references disclose that the glue application device 42 applies conventional glues such as starch ('391: column 5, lines 10-13; '458: column 4, lines 12-14).

As to the amended limitation of "the water and starch combining to form an adhesive joining the first and second webs of medium together". This amendment does not add any structure or function to the apparatus (see also MPEP § 2115).

As to claim 11, the corrugating device comprises a first corrugating roll and a second corrugating roll (rollers 38 and 40). As to claim 16, there is a second water supply device capable of applying water agent to the crests on the second side of the single faced corrugating board (sprayer 61). As to claim 17, there is a second starch

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supply device capable of applying starch to the crests on the second side of the first web (adhesive station 60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallick '391 or Wallick '458 as applied to claim 10 above, and further in view of Westphal (US Patent No. 5,607,508) and/or Miller (US Patent No. 5,609,711).

Wallick '391 or Wallick '458 disclose that the water supply (resin in emulsion or latex) is applied only to the crests in order to reduce costs and for easier recycling of the end product. Wallick '391 or Wallick '458 also disclose that the water supply is either applied by a sprayer device or a roll coater. It is clear that the roll coater in Wallick '391 or Wallick '458 applies the wetting agent only to the crests. It appears that the sprayer device in Wallick '391 or Wallick '458 is capable of applying water only to the crests of the flutes, however the Wallick references do not explicitly recite the use of the sprayers for applying coating only to the crests.

It is well known in the art to apply coatings to only the crests of the flutes by using a sprayer. For example, Westphal discloses using a sprayer (pressurized nozzles 13)

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that applies coating material only to the crests of the flutes in an apparatus for coating a corrugated web (column 3, lines 10-25; column 6, lines 7-19) as an obvious and known equivalent alternative to using a roll coater (column 5, line 56 to column 6, line 6). Miller discloses another example of using a sprayer to apply a coating to only the crests of flutes in an apparatus for manufacturing corrugated product (column 7, lines 49-57). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus as shown in Wallick '391 or Wallick '458 with a water supply device that is a sprayer that is capable of applying water only to the crests as is well known in the art as an obvious equivalent alternative to a roll coater as further exemplified by Westphal and/or Miller particularly since Wallick '391 or Wallick '458 disclose that the water supply device is alternatively a sprayer.

Claims 10, 11, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swift (US Patent No. 1,199,508) in view of Wallick '391 or Wallick '458.

Swift discloses an apparatus capable of manufacturing a corrugated product with a corrugating device (rollers 2,3) capable of forming a plurality of flutes on a medium web, a water supply device capable of applying water to the crests (spraying device 6), a starch supply device capable of applying starch to the crests (rollers 29 and 30) after the water supply device applies water to the crests (see figure 1), and a securing device capable of securing a second web of medium to the crests (roller 9).

As to the amended limitations of a "water" supply device and a "starch" supply device. The spraying device 6 in the Swift reference is fully capable of supplying water

and the rollers 29 and 30 are also fully capable of applying starch. The material worked upon does not further limit apparatus claims (see MPEP § 2115). It is further noted that the spraying device 6 coats the web with a suitable material in an "aqueous solution" (page 1, lines 76-80) thus the device is applying water to the crests of the web.

As to the amended limitation of "the water and starch combining to form an adhesive joining the first and second webs of medium together". This amendment does not add any structure or function to the apparatus (see also MPEP § 2115).

Independent claim 10 further requires the limitation that the water supplying device is adapted to apply water to only a plurality of crests and that the starch supply device is adapted to apply a starch to only the plurality of crests. Swift discloses that the adhesive applicator, "starch supply device", (rollers 29 and 30) applies adhesive only to the crests (page 2, lines 17-28). As for the "water supply device", it is known in the art to apply wetting agents such as the one disclosed in Swift (for reinforcement of the web) only to the crests in order to save costs and provide for easier recycling. For example, Wallick '391 and Wallick '458 both disclose applying wetting agent (for reinforcement of the web) only to a plurality of the crests in order to reduce the costs and to facilitate recycling ('391- column 5, lines 30-31, column 7, lines 19-20, column 9, lines 57-60; '458- column 4, lines 18-19, column 5, lines 7-9 and 54-55, column 7, lines 13-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus as shown in Swift with a water supply device that is capable of applying wetting agent only to the crests in order to save costs and provide for easier recycling as shown by Wallick '391 and Wallick '458.

As to claim 11, the corrugating device comprises a first corrugating roll and a second corrugating roll (rollers 2,3). As to claim 16, there is a second water supply device capable of applying water to the crests on the second side of the single faced corrugating board (sprayer 17). As to claim 17, there is a second starch supply device capable of applying starch to the crests on the second side of the first web (rollers 29 and 30).

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swift in view of Wallick '391 or Wallick '458 as applied to claim 10 above, and further in view of Westphal (US Patent No. 5,607,508) and/or Miller (US Patent No. 5,609,711).

Swift discloses that the "water supply device" is a sprayer, however does not specifically recite that the sprayer is capable of applying water only to the crests. Wallick '391 or Wallick '458 disclose that the "water supply device" (resin in emulsion or latex) applies the coating only to the crests in order to reduce costs and for easier recycling of the end product. Wallick '391 or Wallick '458 also disclose that the water supply is either applied by a sprayer device or a roll coater. It is clear that the roll coater in Wallick '391 or Wallick '458 applies the wetting agent only to the crests. It appears that the sprayer device in Wallick '391 or Wallick '458 is capable of applying water only to the crests of the flutes, however the Wallick references do not explicitly recite the use of the sprayers for applying coating only to the crests.

It is well known in the art to apply coatings to only the crests of the flutes by using a sprayer. For example, Westphal discloses using a sprayer (pressurized nozzles 13)

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that applies coating material only to the crests of the flutes in an apparatus for manufacturing corrugated product (column 3, lines 10-25; column 6, lines 7-19) as an obvious and known equivalent alternative to using a roll coater (column 5, line 56 to column 6, line 6). Miller discloses another example of using a sprayer to apply a coating to only the crests of flutes in an apparatus for manufacturing corrugated product (column 7, lines 49-57). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus as shown in Swift, Wallick '391 or Wallick '458 with a water supply device that is a sprayer that is capable of applying water only to the crests as is well known in the art as an obvious equivalent alternative to a roll coater as further exemplified by Westphal and/or Miller particularly since Swift, Wallick '391 or Wallick '458 disclose that the water supply device is alternatively a sprayer.

(10) *Response to Argument*

Claims 10, 11, 16, 17 and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

Appellant argues on pages 6 to 7 that one of ordinary skill in the art will readily understand that a combination of water and starch is used world-wide to form the adhesive used in corrugated paper. The standard for satisfying 35 USC 112 first paragraph written description requirement is whether the subject matter claimed is described in the specification in such a way as to reasonably convey one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the

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claimed invention. The rejection is based on the limitations added to independent claim 10 in the Amendment filed June 24, 2004 that "the water and starch combining to form an adhesive joining the first and second webs of medium together." The limitation of "the water" refers to the water applied to only the crests by the water supply device and the limitation of "starch" refers to the starch applied to the only the crests by the starch supply device after "the water" is applied to the crests by the water supply device.

While Appellant continues to argue that the specification and state of the art provide support for the adhesive in forming corrugated board being formed by a mixture of starch and water, that is not what is being claimed. The Original Specification provides support only for applying a wetting agent "water" to the crests and then later applying an adhesive composition "starch" to the crests where the adhesive composition is a starch slurry. However, there is no support in the Original Specification that would reasonably convey one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the water pre-applied to the crests combines with the later applied starch to form an adhesive that joins the first and second web of medium together.

It is noted that Appellant's arguments and Original Specification note that the water from the starch slurry is absorbed into the fluting paper after the slurry is applied and before the slurry becomes an adhesive. Again, the limitation rejected requires that the pre-applied water combines with the starch to form an adhesive, not that water applied from the starch slurry is combined to form the adhesive as suggested by Appellant.

It is further noted that Appellant states on page 7, "This additional water is not used as an adhesive but rather as a process improvement". Again, this statement is contrary to the rejected limitation that the pre-applied water combines with the later applied starch to form an adhesive.

Claims 10, 11, 16, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallick '391 (US Patent No. 5,292,391) or Wallick '458 (US Patent No. 5,332,458).

Appellant argues on page 9 that the Wallick references disclose a resin applicator that applies resin to the entire corrugated medium and makes no reference to the application of water to the flute tips only by way of applicator 44. As set forth above and in the prior rejections, Wallick discloses a device (spray 48 with the embodiment of the roller coater in figure 2b applying only to the crests) that applies an aqueous solution (emulsion or latex) to **only** the crests of the corrugated board ('**391**- column 5, lines 30-31, column 7, lines 19-20, column 9, lines 57-60; '**458**- column 4, lines 18-19, column 5, lines 7-9 and 54-55, column 7, lines 13-16). The embodiment relied upon in the rejection is that of the application to only the crests of the corrugated web as shown in figure 2b and discussed in the references in the passages cited above. The devices in the Wallick references have the same structure and function as Appellant's invention. The Specification does not define the wetting supply device as a particular structure any different from those in the references (see page 6 line 20 to page 7, line 3; page 7, line 20 to page 8, line 8; page 8, line 16 to page 9, line 4). The Specification also discloses that "a wetting agent such as water with or without additives is applied" (page 10, lines

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11-12), further showing that the wetting agent supply device is not particular to just water nor has a particular structure just for water.

As to whether the device in the Wallick references disclose the application of water, the material worked upon does not further limit apparatus claims (see MPEP §2115). All that is required by the claims is a device capable of applying water only to the crests. Not only is the device in the Wallick references clearly capable of applying water, the device does in fact apply water only to the crests because the resin solution that is applied is an aqueous solution (emulsion or latex; **'391**: column 8, lines 1-15 and column 10, lines 1-10; **'458**: column 5, lines 46-55 and column 7, lines 19-28).

Appellant argues on page 10 that what is relevant is the "1. Application of water only; 2. Application prior to the starch application; and 3. Application to the flute tips only." All the claims appealed are apparatus claims. The claims do not require the application of water only; there are no limitations limiting the application to that of only water. Not only do the claims not recite that only water is applied to the flute tips, but also the claims are apparatus claims that only require a device capable of applying water.

Appellant finally argues on page 10 that the spray device in the Wallick references does not only apply to the flute tips. As discussed above, the rejection is based on the embodiment as disclosed by the Wallick references of application only to the flute tips.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallick '391 or Wallick '458 as applied to claim 10 above, and further in view of Westphal (US Patent No. 5,607,508) and/or Miller (US Patent No. 5,609,711).

Appellant argues on pages 10-11 that the Westphal reference is not at all related to corrugated paperboard manufacturing. As set forth above, the Wallick references disclose using a sprayer device to apply a coating to the medium web and that a preferred embodiment is to apply coating only to the crests of the medium web by using a roller coater device. It is unclear whether the Wallick references disclose the use of a sprayer for applying coating only to the crests. However, it is well known in the art to apply coatings to only the crests of the flutes by using a sprayer. Westphal is one example of an apparatus for coating a corrugated web where it is shown that it is known in the art to provide a sprayer as an alternative equivalent in the art to a roller coater for providing a coating only on the crests of a medium web.

It is unclear what Appellant intends by arguing on page 11 that the Appellants "do not claim that a sprayer could be a precise method of applying water to the flute tips only." The claim 35 requires a device that is capable of applying water to only the flute tips where the device is a sprayer.

Appellant argues on page 11 that the Miller reference discloses spray nozzles which deliver an adhesive onto a sheet to be bonded to a corrugated sheet, that a spray device will apply a relatively even coating to the full surface in front of the spray head and that it is obvious to someone skilled in the art that a spray of this sort will result in objectionable overspray which will prevent the noted operation without frequent and

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extensive cleaning. As discussed above, the Wallick references disclose using a sprayer devices to apply a coating to the medium web and that a preferred embodiment is to apply coating only to the crests of the medium web by using a roller coater device. It is unclear whether the Wallick references disclose the use of a sprayer for applying coating only to the crests. However, it is well known in the art to apply coatings to only the crests of the flutes by using a sprayer. Westphal is one example of an apparatus for coating a corrugated web where it is shown that it is known in the art to provide a sprayer as an alternative equivalent in the art to a roller coater for providing a coating only on the crests of a medium web. Miller is further cited as another example of an apparatus for coating a corrugated web where a sprayer is used to apply coating material only to the crests of the flutes.

Appellant's arguments on page 12 include that the combined references do not disclose each and every element of the claims, the references fail to identify problems inherent with the prior art nor the solution identified by the pending application. All the claim limitations are met by the references as discussed above. Any indication of a problem in the prior art and a solution by Appellant's invention are not addressed and need not be addressed because none of the arguments relate to any of the claim limitations.

Claims 10, 11, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swift (US Patent No. 1,199,508) in view of Wallick '391 or Wallick '458.

Appellant argues on page 13 that the reference Swift discloses a spraying apparatus 6 that applies sodium silicate, not water. As discussed above, the material worked upon does not further limit apparatus claims (see MPEP §2115). The claims merely require a device capable of applying water to the crests of the medium web. The spraying device 6 in Swift is fully capable of applying water to the crests of the medium web. The structure and the function of the water supply device as claimed by Appellant is no different than that shown by the references. Additionally, the spraying device 6 in Swift coats the web with a suitable material in an "aqueous solution" (page 1, lines 76-80) thus the device is applying water to the crests of the web.

Appellant argues on page 13 that the references are not at all related to the idea of lessening the effects of the excess heat and avoiding excess starch application to the process, nor the effects of heat on the cost of the board and its resulting quality. These arguments are not related to any of the claim limitations. It is noted that all the claims are apparatus claims.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swift in view of Wallick '391 or Wallick '458 as applied to claim 10 above, and further in view of Westphal (US Patent No. 5,607,508) and/or Miller (US Patent No. 5,609,711).


Appellant argues on page 14 that what is not known and what is not obvious is the provision of a water spraying device which sprays water onto flutes prior to a starch

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supply device which applies adhesive to the same flutes after the water has been applied, that the difficulties associated with modern manufacturing and the incumbent heat are not identified nor is the solution afforded by the claimed subject matter. As discussed above the claims are directed to an apparatus. All the limitations are met by the references as discussed above in the rejections and response to arguments. These arguments are not related to any of the claim limitations.

For the above reasons, it is believed that the rejections should be sustained.


Respectfully submitted,


Gladys JP Corcoran
Primary Examiner
Art Unit 1733

GJPC

May 6, 2005

Conferees

Blaine Copenheaver  SPE 1733

Steven Griffin  SPE 1731

MARSHALL, GERSTEIN & BORUN LLP
233 S. WACKER DRIVE, SUITE 6300
SEARS TOWER
CHICAGO, IL 60606